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**Cc:** Dhieux, Joyel[Dhieux.Joyel@epa.gov]; Gerard, Henry[Gerard.Henry@epa.gov]; Powell, Greg[Powell.Greg@epa.gov]  
**From:** Merritt, Steven  
**Sent:** Tue 8/11/2015 8:03:25 PM  
**Subject:** FW: Hach Kits for Water Analysis- Gold King Mine  
[Hach Methods Quick Ref Guide.pdf](#)  
[SA1100 Data Sheet Lead or Copper Tests.pdf](#)  
[Visual Method for the Detection of Arsenic.pdf](#)

Wendi,

Here's where you need to ship this stuff. Do what you need to in order to get the DR2800 off to Durango today. If Hach can't get the reagents out today, we need to find another supplier, if that's possible.

Confirm for me that this is what we're trying to order 100 tests of:

| Analyte<br>Range            | Part                | Method                                     |                  |
|-----------------------------|---------------------|--|------------------|
| Arsenic<br>mg/L             | —                   | Silver Diethyldithiocarbamate 8013         | 0.020 - 0.200    |
| Chromium, Total<br>2242500  |                     | Alkaline Hypobromite Oxidation Method 8024 | 0.01 - 0.70 mg/L |
| Cadmium<br>0.080 mg/L       | 2242200             | Dithizone 8017                             | 0.0007 –         |
| Lead<br>0.300 mg/L          | 2243100             | Dithizone 8033                             | 0.003 –          |
| Manganese, LR<br>0.700 mg/L | PAN 8149<br>2651700 |  | 0.006 -          |

Joyel and others, please weigh in on this... I know that spectrometry was less desirable, but we have one of these and it's got a decent throughput.

Steven B. Merritt, CIH

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**From:** Powell, Greg

**Sent:** Tuesday, August 11, 2015 11:54 AM

**To:** Merritt, Steven

**Cc:** Gerard, Henry; Dhieux, Joyel

**Subject:** Hach Kits for Water Analysis- Gold King Mine

Greetings:

Trying to see if we can utilize Hach water analysis kits for surface and ground water sampling here at the Gold King Mine site release. Hach kits are regularly used for water treatment confirmatory sampling. I propose that ten percent of the samples be sent to a lab for confirmation analysis.

We will need to have kits for high, medium and low concentration ranges. I suggest that

someone talk to the health people for levels of concern for drinking water, livestock and direct contact numbers.

Attached is some information for Pb, As and Cr. Probably should add Cadmium and Manganese. The key is for ease of use in the field. I do not think we should utilize spectrophotometers. Let me know what you think.

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Facts do not cease to exist because they are ignored.